

Application No.: 10/618,403

3

Docket No.: 549242002300

**In the claims**

1. (currently amended): A capacitive sensor comprising:

a body;

a pendulum suspended from the body;

at least one capacitor, wherein each capacitor has a first electrode on the body and a second electrode on the pendulum, whereby a variable capacitance between the first electrode and second electrode is indicative of a relative angular position between the body and the ~~pendulum~~ pendulum; and

a reference surface associated with the body and defining a reference plane having a desired orientation.

2. (original): The capacitive sensor of claim 1, wherein the second electrode of a plurality of the capacitors is a conductive surface of the pendulum.

3. (currently amended): The capacitive sensor of claim 1 there being a plurality of the capacitors and, further comprising ~~electronic~~ circuitry coupled to each of the capacitors which determines a capacitance relationship of the capacitors.

4. (original): The capacitive sensor of claim 3, wherein the capacitance relationship relates a capacitance of a first of the capacitors with a capacitance of a second of the capacitors.

5. (currently amended): The capacitive sensor of claim 3, wherein the capacitance relationship relates a capacitance of a first of the capacitors in a ~~tilted~~ first position of the body with a capacitance of the first of the capacitors in a ~~reference~~ second position of the body.

pa-903177 v1

Application No.: 10/618,403

4

Docket No.: 549242002300

6. (currently amended): The capacitive sensor of claim 5, wherein the ~~reference position is a position~~ second position defines a direction orthogonal to the direction of Earth's gravitational pull.

7. (original): The capacitive sensor of claim 1, further comprising circuitry coupled to the capacitor and which generates a signal indicative of a direction of tilt of the body from the pendulum.

8. (original): The capacitive sensor of claim 1, further comprising circuitry coupled to the capacitor and which generates a signal indicative of a degree of tilt between the body and the pendulum.

9. (original): The capacitive sensor of claim 1, wherein:

there are at least four of the capacitors and the electrodes of the first capacitor are positioned on an opposing side of the pendulum from the electrodes of the second capacitor, and distances between the electrodes of each of the first and second capacitors change with movement of the pendulum in a first vertical plane; and

the electrodes of the third capacitor are positioned on an opposing side of the pendulum from the electrodes of the fourth capacitor, and distances between the electrodes of each of the third and fourth capacitors change with a movement of the pendulum in a second vertical plane.

10. (original): The capacitive sensor of claim 1, wherein the pendulum comprises:

a mass; and

a spring coupling the mass to a pivot of the body.

11. (original): The capacitive sensor of claim 1, there being a plurality of the capacitors and further comprising circuitry coupled to the capacitors and which determines a relationship between capacitances of the capacitors, wherein the

pa-903177 v1

Application No.: 10/618,403

5

Docket No.: 549242002300

relationship is indicative of an angle between an axis of the body and an axis of the pendulum.

12. (original): The capacitive sensor of claim 1, further comprising circuitry coupled to the capacitor and which generates a signal indicative of the relative angular position between the body and the pendulum.

13. (currently amended): The capacitive sensor of claim 1, ~~further comprising a~~ where the reference surface associated with the body defines a plane that is orthogonal to the direction of Earth's gravitational pull.

14. (currently amended): The capacitive sensor of claim 13, further comprising at least one actuator mechanically coupled to one of the reference surface or body thereby to orient the reference surface relative to a support surface.

15. (currently amended): The capacitive sensor of ~~Claim~~ claim 1 wherein the pendulum has a conductive area disposed at each of four quadrants; and the body includes:

a pivot from which the pendulum is suspended;

a first conductive area facing the first quadrant of the pendulum;

a second conductive area facing the second quadrant of the pendulum;

a third conductive area facing the third quadrant of the pendulum; and

a fourth conductive area facing the fourth quadrant of the pendulum; the conductive areas on the pendulum and body respectively defining four ~~capacitors~~; capacitors.

~~wherein the pendulum is suspended from the pivot.~~

16. (canceled)

pa-903177 v1

Application No.: 10/618,403

6

Docket No.: 549242002300

17. (canceled)

18. (canceled)

19. (canceled)

20. (new): The capacitive sensor of claim 1, further comprising an external laser module detachability coupled to the reference surface.

21. (new): A method of providing a reference plane, comprising the acts of:

providing a body having an associated reference surface defining the reference plane, the body having a first electrode;

suspending a pendulum from the body, the pendulum including a second electrode;

sensing a variable capacitance of a first capacitor including the first and second electrodes; and

adjusting an orientation of the reference surface in response to the sensed variable capacitance, the reference plane thereby having a desired orientation.

22. (new): The method of claim 21, further comprising the acts of:

providing a second capacitor having a first electrode associated with the body and a second electrode associated with the pendulum;

sensing a variable capacitance of the second capacitor; and

determining a relationship of the variable capacitances.

23. (new): The method of claim 21, further comprising the act of:

pa-903177 v1

Application No.: 10/618,403

7

Docket No.: 549242002300

determining of a direction of tilt between the reference surface and the pendulum from the sensed volatile capacitance.

24. (new): The method of claim 21, wherein the pendulum further including a mass and a spring, and further comprising the act of coupling the mass to a pivot of the body.

25. (new): The method of claim 21, wherein the act of adjusting the orientation of the reference surface includes adjusting the orientation of the reference surface with respect to the pendulum in response to the sensed variable capacitance.

26. (new): The method of claim 25, further comprising the act of coupling at least one actuator to one of the reference surface or body, the actuator being positioned for orienting the reference surface relative to the pendulum.

27. (new): The method of claim 21, further comprising the act of detachability coupling an external laser module to the reference surface.

pa-903177 v1